

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brandon Crabtree) Art Unit: 3616
Serial No. 10/808,636) Examiner: COZART JERMIE E
Filed: March 24, 2004) Cust. No. 22931
For: METHOD AND APPARATUS) Attorney
FOR REMOVING AND) Ref. No.: P314760
INSTALLING A
DIFFERENTIAL OF A
VEHICLE

MAIL STOP AMENDMENT
(Sent via Private PAIR online)
Commissioner for Patents
P.O. Box 1450
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May 24, 2005

/Stephanie Brown/
Stephanie Brown

RESPONSE

Sir:

This is in response to the Office Action mailed this last February 24, 2006. A response is due today. If any additional fees are required that were not submitted at the time of filing of this Response on the PAIR system, please charge them to Deposit Account No. 08-3260.

Please amend the above identified application as follows:

In the Claims:

1. (currently amended) A hoisting assembly for supporting a differential of a vehicle having a frame comprising first and second longitudinally extending vehicle frame members each vehicle frame member comprising an upper surface, the vehicle having a differential that is adapted to be attached to an axle of the vehicle, the hoisting assembly comprising:
 - a) a central frame having first and second lateral ends and a central area, the central frame supported substantially at the upper surface of the first and second vehicle frame members, the central frame comprising containment brackets positioned at the first and second lateral ends at substantially 90 degrees downwardly configured to operatively maintain the central frame on the upper surface of the first and second vehicle frame members;
 - b) a hoisting device adapted to be mounted to the central area of the central frame, the hoisting device comprising an attachment member that is adapted to be mechanically attached to the differential of the vehicle;
 - c) whereas, the hoisting device is adapted to raise the attachment member vertically and the differential attached thereto and support the differential where the central frame is positioned substantially vertically above the differential and the hoisting assembly is adapted to be mounted to the frame of the vehicle.
2. (currently amended) The hoisting assembly as recited in claim 1 where the vehicle has a longitudinal axis indicating a longitudinal direction the hoisting assembly further comprising:

_and the central framehoisting assembly is adapted operatively configured to
reposition in the longitudinal direction with respect to the vehicleon the upper
surface of the first and second vehicle frame members.

3. (currently amended) The hoisting assembly as recited in claim 1 where the hoisting device is adapted operatively configured to raise the differential where the differential is not directly under the hoisting device.
4. (currently amended) The hoisting assembly as recited in claim 3 where the differential is configured to operate and lift a differential when the hoisting device is within 40° from a vertical access from the location of the hoisting device when initially lifting the differential.
5. (currently amended) The hoisting assembly as recited in claim 1 where the hoisting device can is operatively configured to reposition laterally with respect to the central frame.
6. (currently amended) The hoisting assembly as recited in claim 4 where the hoisting device is operatively configured to can reposition laterally with respect to the central frame.
7. (currently amended) The hoisting assembly as recited in claim 1 where the attachment member is adapted operatively configured to engage a recessed region of the differential.
8. (original) The hoisting assembly as recited in claim 1 where the central frame has first and second longitudinally extending members that are located in the first and second lateral ends respectively.
9. (currently amended) The hoisting assembly as recited in claim 1claim 2 where the hoisting device comprises a cable that is adapted to extend and retract from a frame housing of the hoisting device.

10. (original) The hoisting assembly as recited in claim 7 where the central frame has first and second longitudinally extending members that are located in the first and second lateral ends respectively.
11. (original) The hoisting assembly as recited in claim 9 where the hoisting device comprises a crank member that is adapted to retract the cable and elevate the differential.
12. (original) The hoisting assembly as recited in claim 11 where the central frame has first and second longitudinally extending members that are located in the first and second lateral ends respectively.
13. (currently amended) The hoisting assembly as recited in claim 1~~claim 2~~ where ~~where the first and second containment brackets positioned at the first and second lateral ends extend substantially vertically downwardly around laterally outward surfaces of the frame member of the vehicle, the first and second containment brackets been adapted operatively positioned to maintain a position of the hoisting assembly in the lateral direction and operatively positioned to maintain the hoisting assembly so the first and second lateral ends of the central frame are supported on the first and second vehicle frame members when the hoisting assembly is repositioned in the longitudinal direction with respect to the vehicle on the upper surface of the first and second vehicle frame members.~~
14. (currently amended) The hoisting assembly as recited in claim 11 where ~~where the first and second containment brackets positioned at the first and second lateral ends extend substantially vertically downwardly around laterally outward surfaces of the frame member of the vehicle, the first and second containment brackets been adapted operatively positioned to maintain a position of the hoisting assembly in the lateral direction and operatively positioned to maintain the hoisting assembly so the first and second lateral ends of the~~

central frame are supported on the first and second vehicle frame members when the hoisting assembly is repositioned in the longitudinal direction with respect to the vehicle on the upper surface of the first and second vehicle frame members.

15. (withdrawn) A method of removing a differential that is attached to a vehicle having a frame that comprises an upper support surface the method comprising:
 - a) retrieving a hoisting assembly comprising a central frame member and a hoisting device which comprises a hoisting cable and an attachment member attached to one end of the hoisting cable, supporting the hoisting assembly to the frame where the hoisting device is positioned substantially vertically above an engagement location of the differential,
 - b) attaching an attachment member that is operatively connected to the hoisting device to the engagement location of the differential,
 - c) retracting the hoisting cable and applying tension thereto whereby supporting the differential and transferring the weight of the differential is transmitted through the central frame member and transferred to the frame of the vehicle.
16. (withdrawn) The method as described in claim 15 where the hoisting assembly is repositioned in a longitudinal direction after the differential is elevated with respect to the frame of the vehicle.
17. (withdrawn) The method as described in claim 15 where the hoisting assembly has a lower support surface that is positioned on the upper support surface of the frame.
18. (withdrawn) The method as described in claim 17 where the center of pull of the hoisting cable is positioned between a perimeter region of the lower support surface of the central frame.

19. (withdrawn) The method as described in claim 16 where the differential is repositioned vertically downwardly by extracting the hoisting cable from the hoisting device and the differential is mechanically detached from the attachment member.
20. (withdrawn) A method of attaching a differential to the axial of a vehicle having a longitudinal axis with a forward and rearward longitudinal region that comprises a frame having an upper support surface, the method comprising:
- supporting a hoisting assembly comprising a central frame and a hoisting device attached to the frame of the vehicle,
 - mechanically attaching an attachment member to an attachment location of the differential where as the attachment member is operatively connected to a hoisting cable which in turn is connected to the hoisting device and is adapted to forcefully retract therein,
 - retracting the hoisting cable whereby providing a vertical force to the differential and vertically supporting the same,
 - positioning the differential to substantially align with a receiving portion of an axle of the vehicle whereby connection locations of the differential substantially aligned with connection locations of the axle,
 - fastening the differential to the axle of the vehicle at least two connection locations,
 - removing the attachment member from the engagement location of the differential.
21. (withdrawn) The method as described in claim 21 where the hoisting assembly is initially placed in the longitudinally rearward location when initially attached to the differential.

22. (withdrawn) The method as described in claim 21 where the hoisting assembly has a lower support surface that is positioned on the upper support surface of the frame.
23. (withdrawn) The method as described in claim 22 where the hoisting assembly is repositioned in the longitudinally forward direction after supplying a sufficient vertical force to support the differential.
24. (withdrawn) The method as described in claim 20 where the hoisting device vertically repositioned the differential so the connection locations of the differential and the axle substantially correspond in location.
25. (withdrawn) The method as described in claim 20 where the hoisting device is repositioned laterally with respect to the central frame to substantially align the connection locations of the differential with the connection locations of the axle.
26. (withdrawn) The method as described in claim 22 where the central frame has first and second lateral ends whereby first and second longitudinally extending members are positioned at the first and second lateral ends respectively and extend substantially the longitudinally direction whereby providing stability about the lateral axis of the hoisting assembly.
27. (withdrawn) The method as described in claim 26 where the center of pull of the hoisting cable is positioned between a lower support surface of the central frame.
28. (withdrawn) The method as described in claim 27 where the hoisting device vertically repositioned the differential so the connection locations of the differential and the axle substantially correspond in location.

29. (withdrawn) The method as described in claim 27 where the hoisting device is repositioned laterally with respect to the central frame to substantially align the connection locations of the differential with the connection locations of the axle.

REMARKS

The applicant appreciates the Examiner's thorough and detailed Office Actions of February 24, 2006. It is believed that the above-noted claims are presently amended to be in a condition for allowance. Claim 1 now recites, more specifically, the vehicle frame comprising first and second longitudinally extending vehicle frame members each having an upper surface in the preamble of the independent claim 1. The first portion of the claim in section a) now recites that the central frame is substantially supported near the upper surface of the first and second vehicle frame members. Further, the first frame contains the limitation of the containment brackets positioned at the lateral end regions, extending downwardly so the central frame maintains its position upon the upper surface of the frame of the vehicle frame members. The dependent claims depending upon the first independent claim have been amended so as to address the Examiner's concerns as recited in the last Office Action. In general, claim 2 now contains a preamble depending on claim 1, and substantive claim limitations thereunder which is believed to be a proper method of amending the preamble portion of the main independent claim.

Claims 3 -- 7 are believed to contain proper claim terminology to define the operating characteristics of the hoisting assembly in its operating environment. With regard to the previous rejections placed on 35 USC Section 102 and 103(a), it is believed that the amended claims now place the application in a condition for allowance, whereby much of the prior art teaches various devices that are positioned at a height much greater than the base structure support which bears the weight of the lifting unit itself as well as the weight of the differential to be removed or installed. The above-noted claims specify a laterally extending central frame that is contained and positioned on the first and second vehicle frame members substantially near the upper surface where the containment brackets are positioned downwardly to maintain the position of the hoisting assembly upon the vehicle frame.

EXAMINER INTERVIEW SUMMARY

The Applicants's attorney appreciates the interview summary with the Examiner on May 23, 2006 where the general nature of the prior art was discussed, as well as possible claim limitations for obtaining patentability.

If there is any matter which could be expedited by consultation with the Applicant's attorney, such would be welcome. The Applicant's undersigned attorney can normally be reached at the telephone number set forth below.

Signed at Bellingham, County of Whatcom, State of Washington this May 24, 2006.

Respectfully submitted,
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